Nursing Diagnosis for MRSA Handout

Methicillin-resistant Staphylococcus aureus (MRSA) is a type of staph infection resistant to several antibiotics. It can spread in hospitals, healthcare facilities, and communities. MRSA commonly causes skin infections but can also lead to more severe infections like pneumonia and sepsis if left untreated.

Pathophysiology

- Staphylococcus aureus is a gram-positive coccus with numerous immune evasion strategies.
- Produces toxins such as alpha-toxin, beta-toxin, and toxic shock syndrome toxin-1 (TSST-1).
- Resistant to β-lactam antibiotics due to the mecA gene, which produces a penicillin-binding protein with low affinity for these antibiotics.

Risk factors

- Recent hospitalization or surgery
- Long-term care facility residency
- Invasive devices (e.g., catheters)
- Recent antibiotic use
- Weakened immune system

Clinical manifestations

- **Skin infections:** Swelling, warmth, redness, pain, pus at the infection site.
- **Blood and deep tissue infections:** Fever, chills, malaise, dizziness, confusion, muscle pain, swelling and tenderness, chest pain, cough, and slow-healing wounds.

Assessment and diagnostic findings

- **Cefoxitin disk diffusion test:** Used to detect MRSA.
- **FDA-approved assays:** Detect the mecA gene.
- **Anti-PBP2A monoclonal antibodies:** Used in latex agglutination or immunochromatographic membrane assays for MRSA detection.

Nursing diagnosis

- Risk for infection related to inadequate primary defenses.
- Impaired skin integrity related to swelling and redness that may result to a break in the skin.
- Acute pain related to infected open wound in the affected area.
- Impaired social interaction related to isolation.

Nursing interventions

1. **Ensure isolation and contact transmission precautions**
    - Isolate patient in a side room; keep the door closed.
    - Ensure the contact precaution sign is visible.
2. **Perform hand hygiene**
    - Use soap and water and/or alcohol gel.
    - Offer patient hand hygiene opportunities.
    - Encourage patient to keep fingernails short and clean.
3. **Use of PPE**
    - Wear plastic apron and gloves before entering the patient's area.
    - Ensure PPE is worn for contact with the patient, environment, and equipment.
    - Request visitors to wear PPE if visiting another patient.
4. **Environmental cleaning**
    - Use disposable mops and cloths.
    - Keep lockers and tables clear of clutter.
    - Ensure domestic staff use chlorine-based products (CBP) for cleaning.
5. **Decontamination of patient's equipment**
    - Provide designated equipment for the patient's own use.
    - Clean equipment removed from the room with appropriate disinfectants.
    - Dispose of unused disposable items after patient discharge.
6. **Monitor signs of infection**
    - Check lab results and vital signs, especially temperature, every shift.
    - Document results clearly in medical and nursing notes.
    - Inform the nurse in charge/medical team of significant results.

Pharmacological management

Several antimicrobial agents are used as alternatives to beta-lactams for outpatient treatment of MRSA skin and soft tissue infections (SSTIs):

- **Clindamycin:** FDA-approved for serious S. aureus infections. Used widely for SSTIs and has been successful in treating CA-MRSA infections.
- **Tetracyclines (Doxycycline, Minocycline):** Doxycycline is FDA-approved for S. aureus skin infections. Tetracyclines are used for MRSA SSTIs caused by susceptible isolates.
- **Trimethoprim-sulfamethoxazole (TMP-SMX):** Not FDA-approved for staphylococcal infections but has been used successfully in case reports for MRSA.
- **Linezolid:** FDA-approved for complicated skin infections and hospital-acquired pneumonia due to MRSA in adults.

Quick tips

- Always practice good hand hygiene.
- Use PPE as required.
- Educate patients on proper hygiene and wound care.
- Monitor for signs of infection regularly.

Additional notes

Ensure thorough cleaning with chlorine-based products to prevent MRSA transmission.

Educate on hand hygiene, wound care, and PPE use to reduce infection risk

Implement surveillance to detect MRSA early and prevent spread.

Promote judicious antibiotic use to combat resistance.

Foster teamwork among healthcare providers for effective MRSA management.

Belleza, M. (2020, April 6). Methicillin-Resistant Staphylococcus aureus (MRSA). Nurseslabs. https://nurseslabs.com/methicillin-resistant-staphylococcus-aureus-mrsa/